CAMBRIDGE

Cambridge University Press
978-0-521-09092-6 - Injective Modules
D. W. Sharpe and P. Vamos
Index
More information

Index

Abelian
  category 26
algebra
  Boolean 57, 158
  group 158
annihilator
  of an element 12
  of a submodule 12
Artin–Wedderburn theorem 60
Artinian
  module 16
  ring (left, right) 16
axiom $AB5$ 57, 81

Banach spaces 57
Boolean algebras 57, 158

canonical homomorphism of a localization 126
chain condition
  ascending 15
  descending 15
change of ring 13
closure 137
compatible system of equations 54
complete
  local ring 137
  set of associated indecomposable injectives 89
  topological space 137
completion
  MacNeille 57
  of a ring 138
components of a normal decomposition 96

decomposition
  first decomposition theorem 92
  Laskar–Noether 104
  normal 94
  second decomposition theorem 95
  tertiary 121
dimension
  Goldie 122
  of a module over a division ring 159
direct
  limit of modules 80
  product 4
  sum of modules 4, 5
  sum of rings 114
  summand 7
  system of submodules 72
divisible
  Abelian group 32
  element 32
  module 32
domain
  almost maximal valuation 185
  Dedekind 36
  maximal valuation 158
  Ore (left) 55, 79
  principal ideal (left, right) 34
dual
  of a module 146
  of a vector space 132
duality
  Pontryagin 158
  Stone's 158

element
  annihilator of 12
  divisible 32
  inverse of a ring 63
  torsion 34
embedding 1
endomorphism(s) 20
  ring of 20
epimorphism 4
extension
  essential 40
  maximal essential 42
  minimal injective 42

factor module 10
filtration 135
fractional ideal 35
  inverse of 35
  invertible 35
functor
  contravariant 23

© Cambridge University Press www.cambridge.org

CAMBRIDGE

Cambridge University Press
978-0-521-09092-6 - Injective Modules
D. W. Sharpe and P. Vamos
Index
More information

functor (*cont.*)
  covariant 22
  Hom 20
  left exact 22, 23

generalized ring of quotients 57
group
  algebra 158
  divisible Abelian 32
  injective Abelian 28

H-ring 110
Hahn–Banach theorem 57
Hausdorff space(s) 136
  totally disconnected compact 158
Hilbert
  basis theorem 26
  space 158
Hom functor 20
homeomorphism 140
homomorphism
  canonical 126
  natural 149

ideal(s)
  associated prime 100
  class 179, 180
  fractional 35
  integral 35
  invertible fractional 35
  irreducible left 48
  isolated associated prime 106
  isolated set of associated prime 106
  N-prime 52
  prime 50
injective(s)
  Abelian group 28
  associated indecomposable 89
  cogenerator 46
  envelope 44
  hull 44
  isolated associated indecomposable 96
  isolated set of associated indecomposable 96
  minimal injective extension 42
  module 24, 28
  N-injective module 52
  reduced set of associated indecomposable 95
  self-injective ring 162
inverse
  limit of modules 80
  of a fractional ideal 35
  of a ring element 63
  system of submodules 72
isomorphism theorems for modules 11

Krull–Schmidt–Remak–Azumaya theorem 65
Kurosh–Ore theorem 92

limit 137
  direct limit of modules 80
  inverse limit of modules 80
localization
  canonical homomorphism of 126
  of a ring 124

mapping
  continuous 136
  induced 10
  injection 6
  natural 10
  projection 6
modular
  lattice 2
  law 2
module(s)
  Artinian 16
  dimension of (over a division ring) 159
  direct limit of 80
  direct sum of 4, 5
  divisible 32
  dual of 146
  factor 10
  finitely embedded 70
  indecomposable 48
  injective 24, 28
  inverse limit of 80
  isomorphism theorems for 11
  N-injective 52
  Noetherian 16
  projective 24
  semi-simple 59
  simple 3
  socle of a 69
  torsion 183
  torsion-free 34
  uniserial 78, 167
monomorphism 1

N-injective module 52
N-prime ideal 52

© Cambridge University Press www.cambridge.org

CAMBRIDGE

Cambridge University Press
978-0-521-09092-6 - Injective Modules
D. W. Sharpe and P. Vamos
Index
More information

Noetherian
  module 16
  ring (left, right) 16
normal
  components of a normal decomposition 96
  decomposition 94
  topological spaces 57

partially ordered sets 57
prime ideal(s) 50
  associated 100
  isolated associated 106
  isolated set of associated 106
  N-prime ideal 52
principal ideal domain (left, right) 34
product
  direct 4
  topology 136
projective
  cover 57
  module 24

quasi-Frobenius ring 158, 184
quasi-local ring 63
quotient(s)
  generalized ring of 57
  ring (left) 79

radical
  Jacobson 76, 80
  tertiary 55
ring(s)
  Artinian (left, right) 16
  change of 13
  complete local 137
  completion of a 138
  direct sum of 114
  generalized ring of quotients 57
  H-ring 110
  hereditary (left) 55
  local 108
  localization of a 124
  Noetherian (left, right) 16
  of endomorphisms of a module 20
  opposite 79
  quasi-Frobenius 158, 184
  quasi-local 63
  quotient (left) 79
  regular 56, 80, 155, 158
  residue class 13
  self-injective 162

semi-simple (left, right) 60
  topological 136
  unit of a 62
  valuation 54, 121, 184

Schroeder–Bernstein theorem 67
sequence
  Cauchy 137
  convergent 137
  exact 14
  zero 14
socle of a module 69
space(s)
  Banach 57
  complete topological 137
  Hausdorff 136
  Hilbert 158
  normal topological 57
  topological 136
  totally disconnected compact Hausdorff 158
  vector 30
Stone's duality 158
strict inclusion 16
submodule(s)
  annihilator of 12
  cyclic 3
  direct system of 72
  finitely generated 3
  generated by a set 3
  intersection of 2
  inverse system of 72
  irreducible 48
  irredundant intersection of 91
  isotopic 93, 102
  maximal 7
  maximal condition for 15
  minimal condition for 15
  primary 101, 102
  proper 3
  singly generated 3
  sum of 2
  torsion 183
subset
  closed 137
  dense 138
  open 135
sum
  direct sum of modules 4, 5
  direct sum of rings 114
  external direct 4
  internal direct 5
  of submodules 2

© Cambridge University Press www.cambridge.org

CAMBRIDGE

Cambridge University Press
978-0-521-09092-6 - Injective Modules
D. W. Sharpe and P. Vamos
Index
More information

summand
  direct 7

topology
  natural 137
  product 136
torsion
  element 34
  module 183
  submodule 183

unit of a ring 62

vector space 30
  dual of 132

zero-divisor
  left 32
  right 32

© Cambridge University Press www.cambridge.org